

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,665	12/19/2001	Donald Joseph Stoddard	MAX.0002US	6531

7590 09/30/2003

Howard R. Boyle
TROP, PRUNER & HU, P.C.
Ste. 100
8554 Katy Freeway
Houston, TX 77024

EXAMINER

LEE, BENNY T

ART UNIT	PAPER NUMBER
----------	--------------

2817

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

10, 025,665

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.

BEST AVAILABLE COPY

EXAMINER	
ART UNIT	PAPER NUMBER
	5

DATE MAILED:

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

- ☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 13 month(s), 3 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input checked="" type="checkbox"/> Notice of Patent Drawing, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449 | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474 | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-31 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-14; 15-18, 20, 21, 23; 24, 26-30 are rejected.
5. ☒ Claims 19, 22; 25, 31 are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings which are acceptable for examination purposes until such time as allowable subject matter is indicated.
8. ☐ Allowable subject matter having been indicated, formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. These drawings are: ☐ acceptable; ☐ not acceptable (see explanation).
10. ☐ The ☐ proposed drawing correction and/or the ☐ proposed additional or substitute sheet(s) of drawings, filed on _____ has (have) been ☐ approved by the examiner. ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved. ☐ disapproved (see explanation). However, the Patent and Trademark Office no longer makes drawing changes. It is now applicant's responsibility to ensure that the drawings are corrected. Corrections MUST be effected in accordance with the instructions set forth on the attached letter "INFORMATION ON HOW TO EFFECT DRAWING CHANGES", PTO-1474.
12. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

SN 25665

Art Unit: 2817

The disclosure is objected to because of the following informalities: Page 2, lines 19, 20, note that "a gigahertz" should be rephrased as -- the gigahertz range -- for a better characterization; lines 24, 25, note that "As a" should be rephrased as -- The current --(l. 24) and note that -- and thus -- should precede "the " as better characterizations. Page 4, after line 13, note that a brief description of --Figure 11-- needs to be provided. Page 5, line 1, note that --of the Invention-- should follow "Description" for a proper characterization; line 11, note that -- and may not be described in detail for all drawing figures-- should follow "views" for a proper characterization. Page 7, line 8, note that --as shown in Figs. 1, 2-- should follow "105" for clarity of description. Page 10, line 21, note that "b-field" should correctly be --B-field--. Note that reference label "201" appearing in Fig. 2 needs description in the specification.

Appropriate correction is required.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification does not describe the "storage subsystem" as recited in claim 25.

Claims 5, 6, 7-9, 10, 11, 12, 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 2817

In claims 5, 6, note that since claim 6 directly depends from claim 5, it is unclear how “a plurality of ferromagnetic rings” relates to the earlier recited “a (single) ferromagnetic ring” (i.e. a part thereof, separate therefrom, etc). Clarification is needed.

In claims 7, 12, note that it is unclear whether the further recitation of “a signal trace” being “covered/constructed ...by a ferromagnetic material” is consistent with the claim 1 recitation that the “transmission line” is fabricated “utilizing deposited ferromagnetic material”.

Clarification is needed

In claims 10, 11, note that since claim 11 directly depends from claim 10, it is unclear how “a plurality of ferromagnetic islands” relates to the earlier recited “a (single) ferromagnetic island” (i.e. a part thereof, separate therefrom, etc). Clarification is needed.

Claim 8, is found objectionable since--said-- should follow “coupling”.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7, 9, 12, 14; 15, 20, 21, 23; 24, 29, 30 are rejected under 35 U.S.C. 102(b) as

being clearly anticipated by Schloemann.

Schloemann (fig. 2) discloses a printed circuit board substrate (22) having a transmission line (26) disposed on surface (22a) of the substrate (22). The transmission line is constructed, in part, by a conductive trace layer (28) and a ferromagnetic material (i.e. Fe) layer (27) deposited

Art Unit: 2817

on the surface (22a) of the substrate. The conductive trace (28) has its lower surface contacting and thus “covered” by and “surrounded” in part by the ferromagnetic material layer. Note that inherent in any transmission line arrangement is an associated characteristic impedance. As is evident from Fig. 1, the apparatus (20) of Fig. 2 can constitute a part of a system (10) having an electrical device (i.e. transmitter 16 and receiver 18) connected thereto.

Claims 1-4, 14; 15-18 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Haertling et al.

Haertling et al (fig. 7) discloses a substrate comprised of LTCC dielectric layers (62, 64, 66, 68, 70) and a conductive trace (72, 74) disposed with respect to the substrate. A ferromagnetic structure comprising ferromagnetic layers (82, 84) and ferromagnetic vias (86, 88, 90) interacts with and shields conductive traces (72, 74) to form a composite transmission line. As described at col 4, various ferromagnetic materials including nickel and nickel alloys are usable in the described structure. Note that such a transmission line structure inherently includes a characteristic impedance.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was

Art Unit: 2817

commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 24, 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haertling et al.

As described above, the apparatus in Fig. 7 of Haertling et al discloses the claimed invention except for an electrical device coupled to such apparatus.

Note that in fig. 6 of Haertling et al, a component (42) can be associated with a substrate including ferromagnetic layers and vias (e.g. of nickel or nickel alloy) to shield such a component.

Accordingly, in view of the teachings in Fig. 6 of Haertling et al, obviously other substrates having Ferromagnetic shielding (e.g. such as that in Fig. 7) would have been suitably adaptable to receiving components (such as component 42 of Fig. 6) therein and thus provide the benefit of having a particular transmission configuration (i.e. Fig. 7) usable with a component, thereby suggesting the obviousness of such a modification.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McClanahan et al pertains to a ferromagnetic via structure. Roshen et al pertains to a ferromagnetic structure.

Art Unit: 2817

Any inquiry concerning this communication should be directed to Benny Lee at telephone number (703) 308-4902.

A handwritten signature in black ink that reads "Benny Lee". The signature is written in a cursive, flowing style.

BENNY T. LEE
PRIMARY EXAMINER
ART UNIT 2817

B LEE/pj

08/26/03